IN THE SPECIFICATION/ABSTRACT

1) On page 17, please amend the first full paragraph as shown below:

Computer 110 typically includes a variety of computer readable media. Computer readable media can be any available physical media that can be accessed by computer 110 and includes both volatile and nonvolatile media, removable and non-removable media. By way of example, and not limitation, computer readable media may comprise physical computer storage media ~~and communication media~~. Computer storage media includes volatile and nonvolatile removable and non-removable media implemented in any physical method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Computer storage media includes physical devices such as, ~~but is not limited to,~~ RAM, ROM, EEPROM, flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical disk storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other physical medium which can be used to store the desired information and which can be accessed by computer 110. ~~Communication media typically embodies computer readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The aforementioned term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared and other wireless media. Combinations of any of the above should also be included within the scope of computer readable media.~~

2) Please replace the Abstract page with the following:

~~"A SYSTEM AND METHOD FOR FAST ON-LINE LEARNING OF TRANSFORMED HIDDEN MARKOV MODELS~~

ABSTRACT ~~OF THE INVENTION~~

A fast variational on-line learning technique for training a transformed hidden Markov model. A simplified general model and an associated estimation algorithm

is provided for modeling visual data such as a video sequence. Specifically, once the model has been initialized, an expectation-maximization ("EM") algorithm is used to learn the one or more object class models, so that the video sequence has high marginal probability under the model. In the expectation step (the "E-Step"), the model parameters are assumed to be correct, and for an input image, probabilistic inference is used to fill in the values of the unobserved or hidden variables, e.g., the object class and appearance. In one embodiment of the invention, a Viterbi algorithm and a latent image is employed for this purpose. In the maximization step (the "M-Step"), the model parameters are adjusted using the values of the unobserved variables calculated in the previous E-step. ~~Instead of using batch processing typically used in EM processing, the system and method according to the invention employs an on-line algorithm that passes through the data only once and which introduces new classes as the new data is observed is proposed. By parameter estimation and inference in the model, visual data is segmented into components which facilitates sophisticated applications in video or image editing, such as, for example, object removal or insertion, tracking and visual surveillance, video browsing, photo organization, video compositing, and meta data creation.~~